Tests were conducted Independently by a Reputable Developer (Japan) and Jointly Witnessed by HCPS at the Sample unit at HCPS Fabrication Complex.

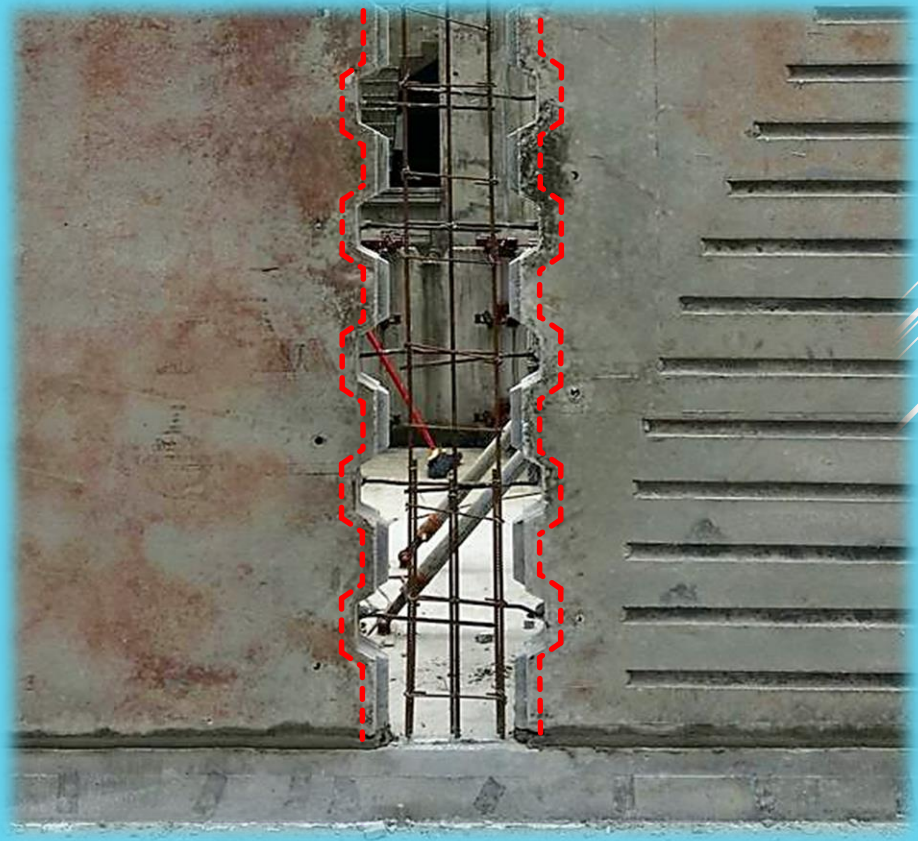
Discover more at : www.hcprecast.com , www.facebook.com/hcprecast

HC PRECAST SYSTEM SDN. BHD.

Revolutionary Patented "Shear Key Joint" System have managed to resolve the very issue which have Plagued the precast industry, Water Leakages and Crack.

Where Most Precast Solutions Have Failed.

Targeted Test for Cracks & Leakages



Tests Conducted

Visual Inspection, Core Sampling & Water Penetration Test.

Visual Inspection

Visual Inspection

Core Sampling

Water Penetration Test

HCPS was founded in 2002 after years of Research and Development mainly focused on tackling the Water Leakage issue. Through years of Hard Work and Constant Refinement to the System.

Tests were conducted Independently by a Reputable Developer (Japan) and Jointly Witnessed by HCPS at the Sample unit at HCPS Fabrication Complex.

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Visual Inspection

Verticality, Flatness and Overall Quality of the HCPS Monolithic Walls

Visual Inspection

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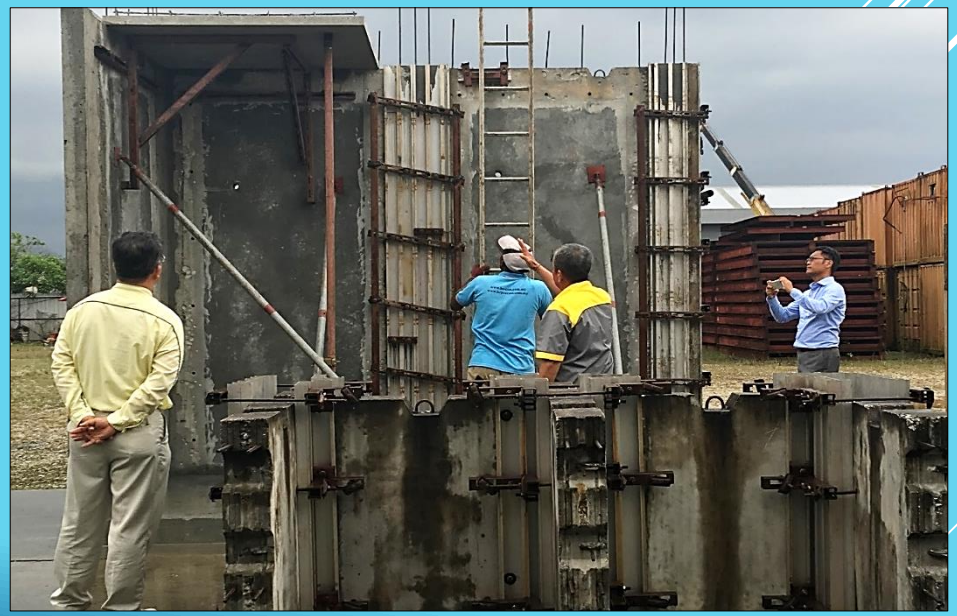
Verticality, Flatness and Overall Quality of the HCPS Monolithic Walls



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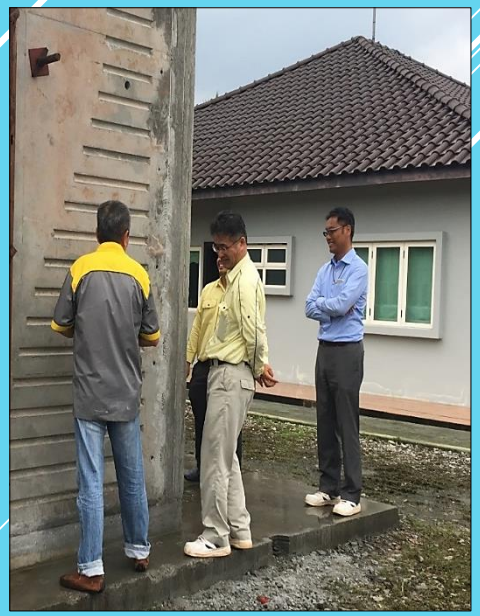
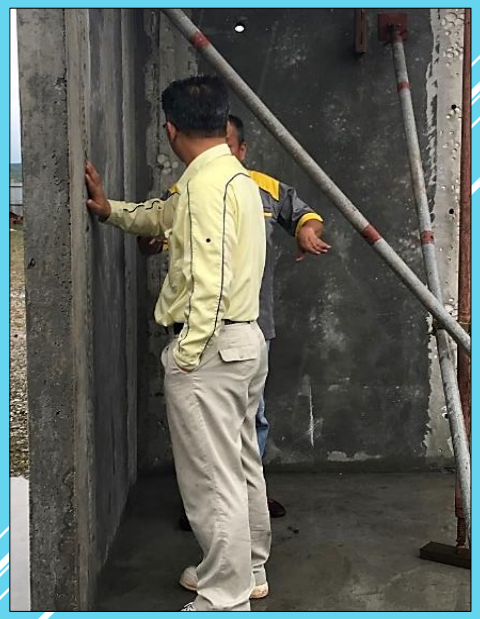
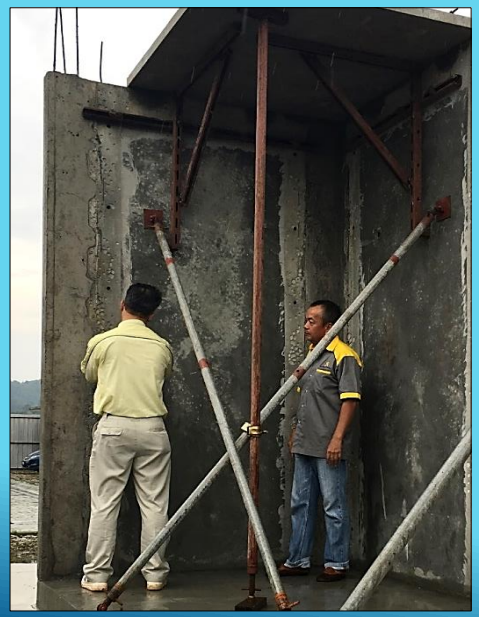
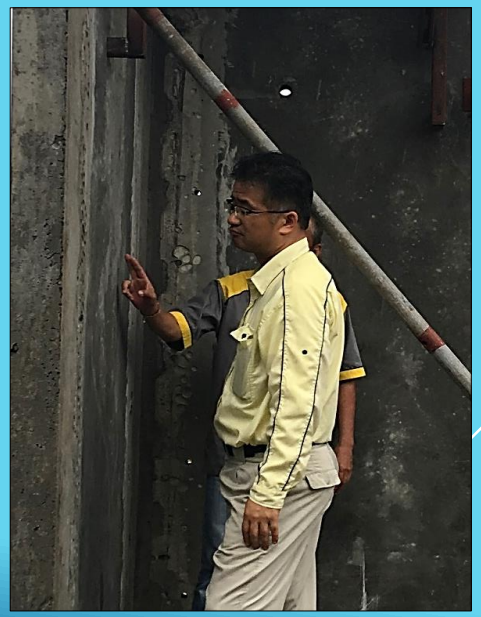


Visual Inspection

Verticality, Flatness and Overall Quality of the HCPS Monolithic Walls

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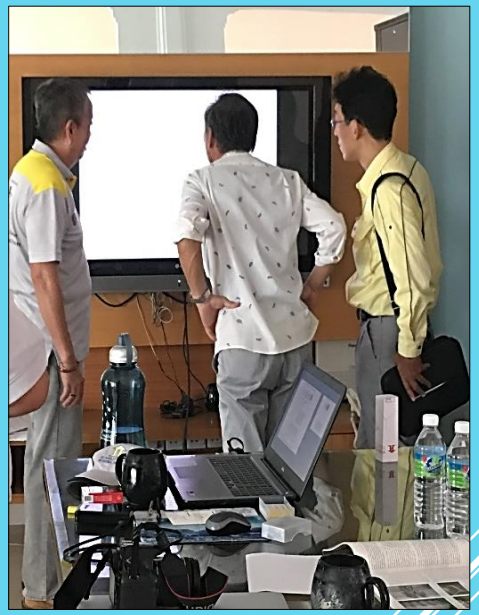

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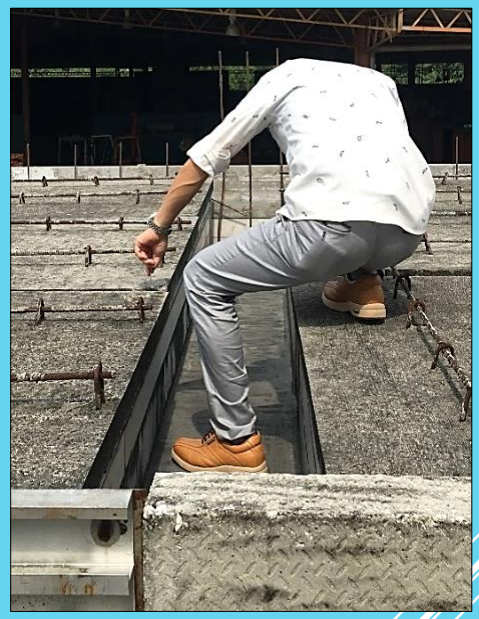

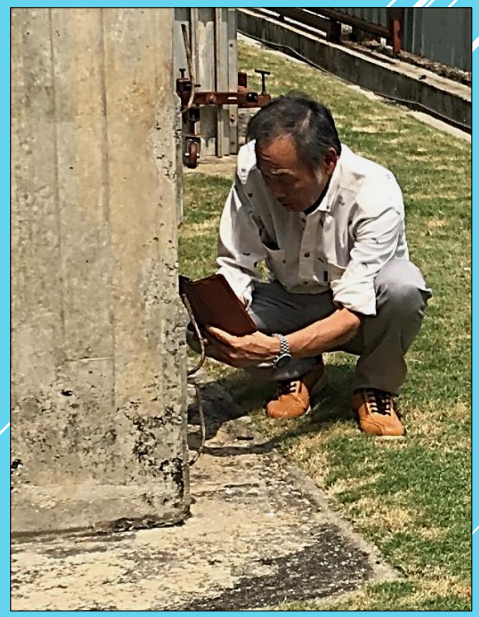

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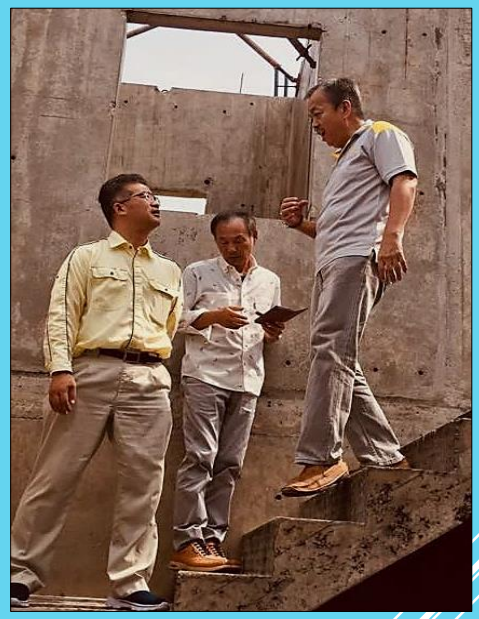
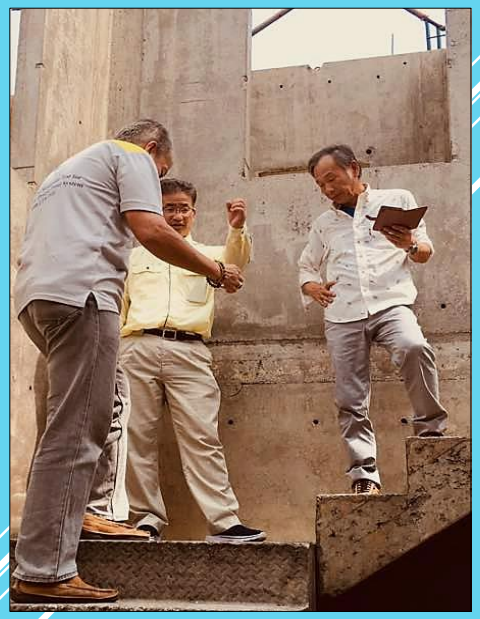
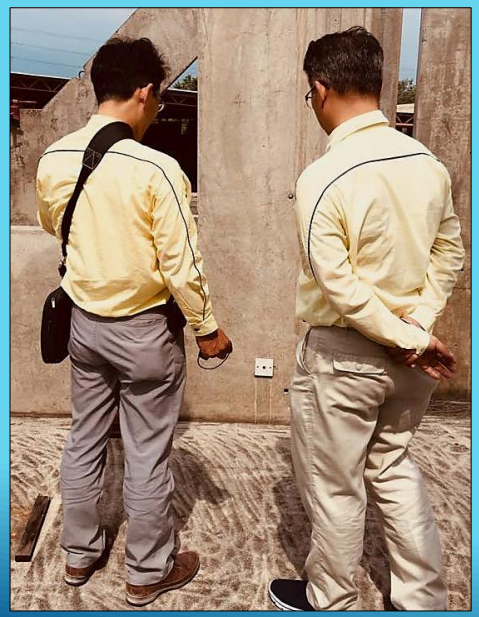

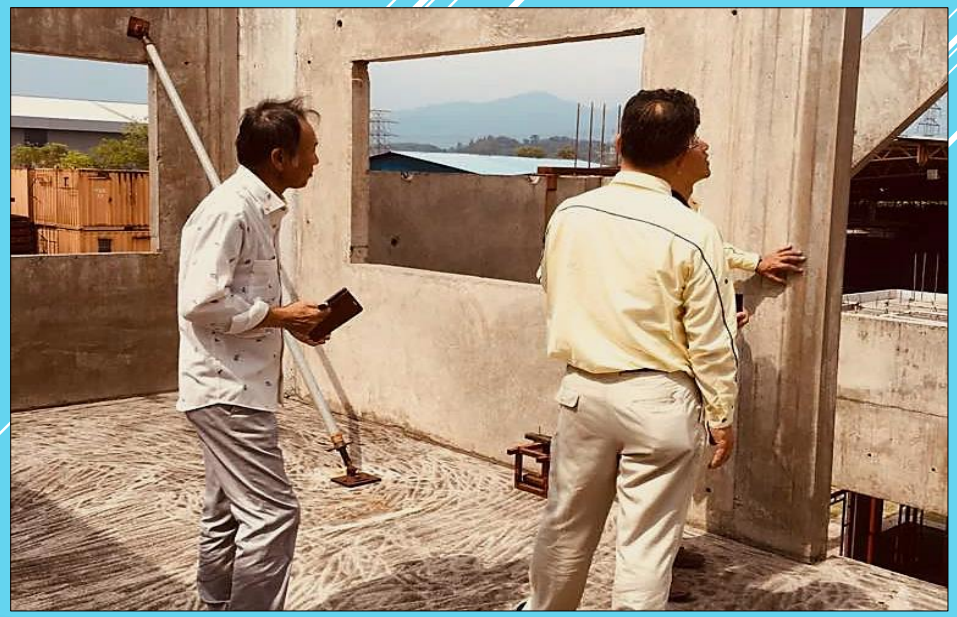

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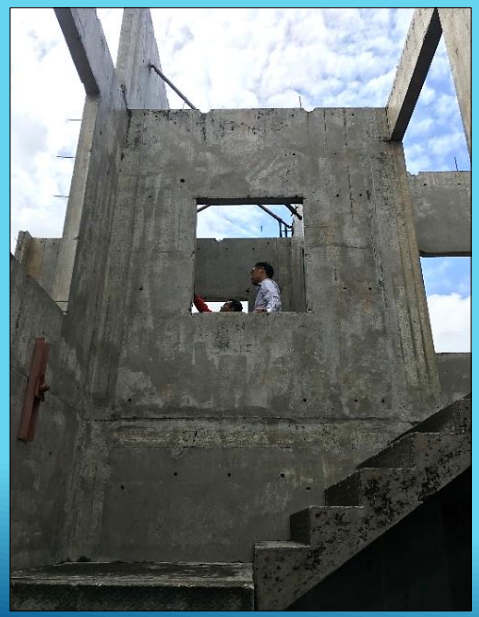
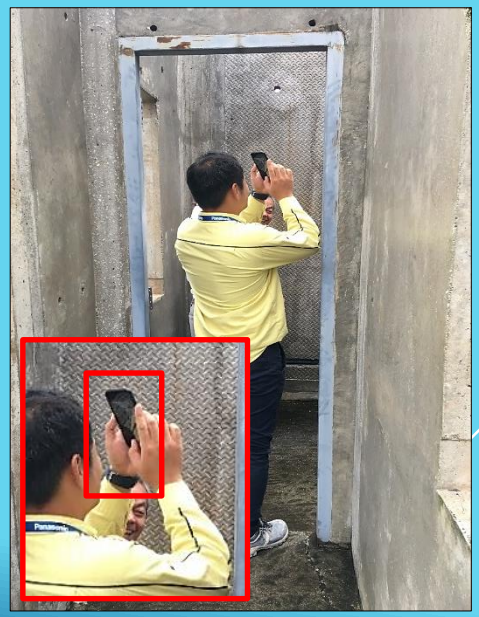
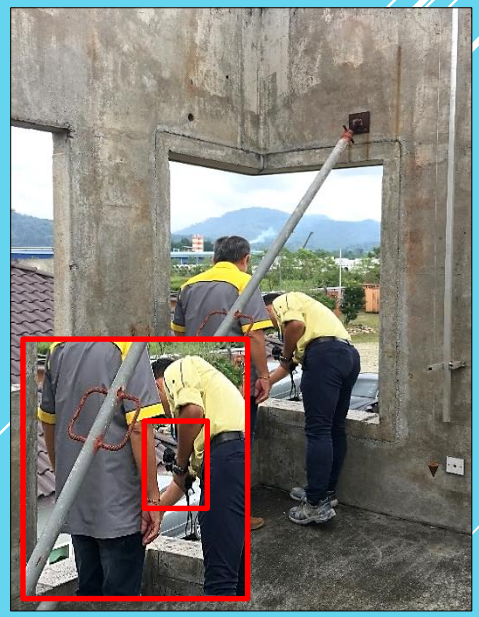


Visual Inspection

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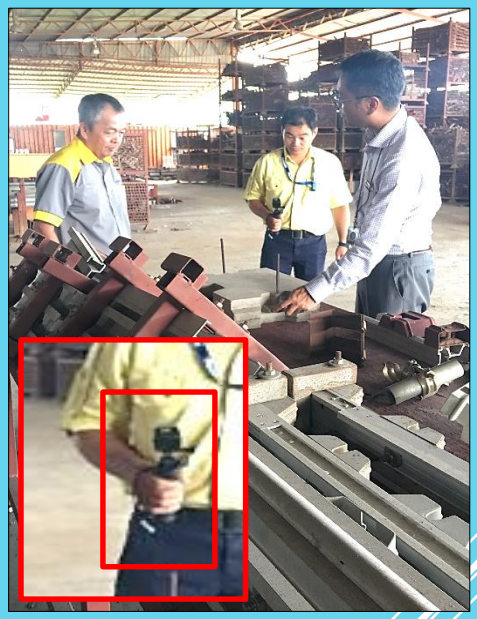

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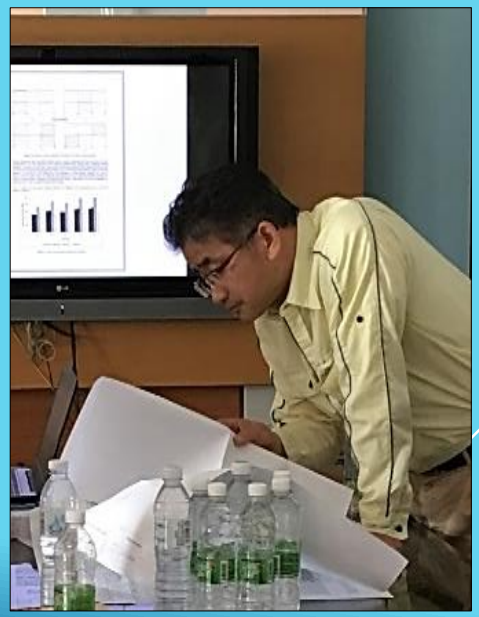


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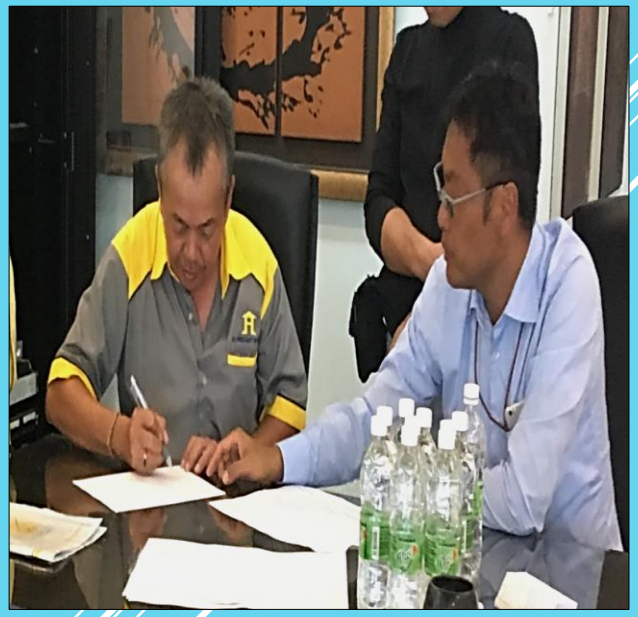

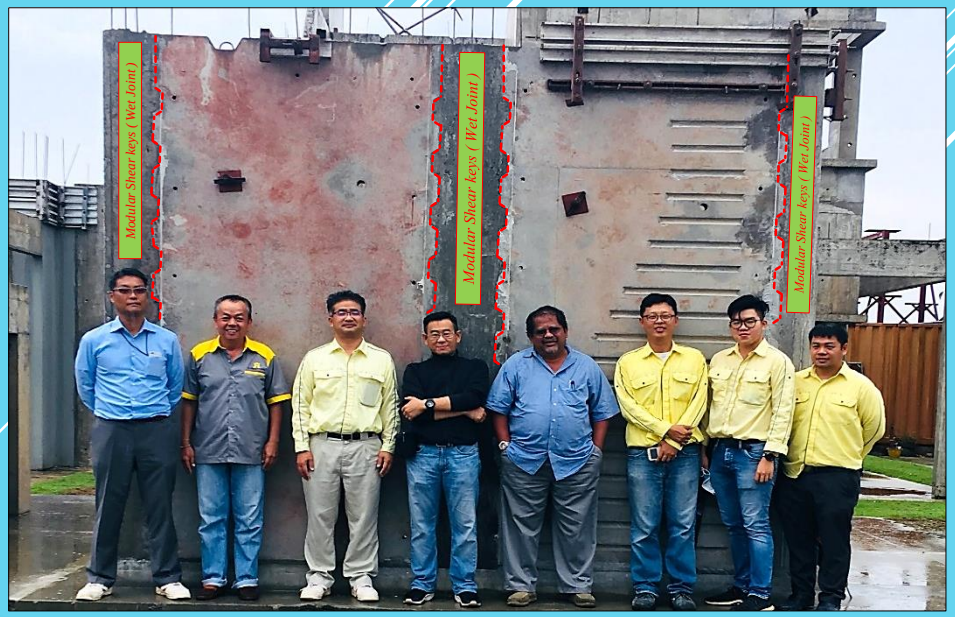

Visual Inspection Project Temerloh Pahang

Verticality, Flatness and Overall Quality of the HCPS Monolithic Walls

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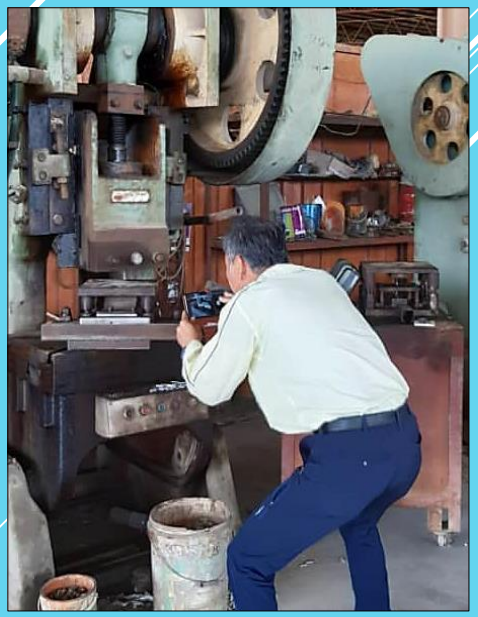


Visual Inspection

Verticality, Flatness and Overall Quality of the HCPS Monolithic Walls

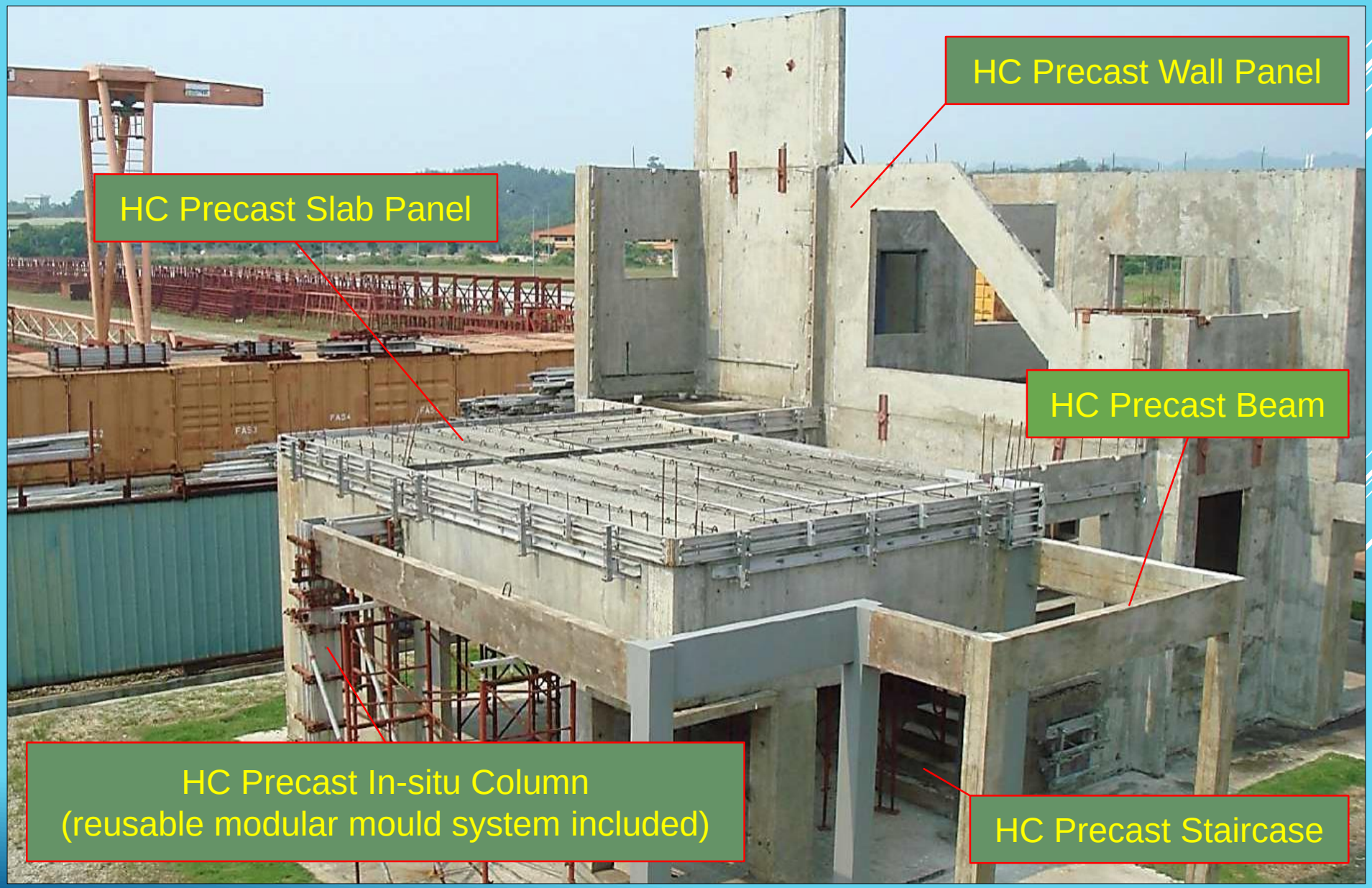







Core Samples

- To inspect the effectiveness of the Cebex 100 Expendite Grout Admixture. To check the Compressive Strength between the Monolithic Joint between Concrete and Cebex 100 Expendite Grout Admixture.
- To inspect the Quality of the Wet Joint casting for through Cracks and Completeness of Concrete casting.



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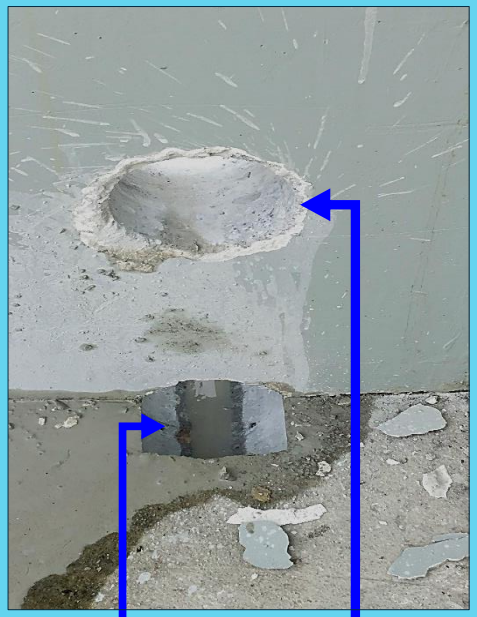
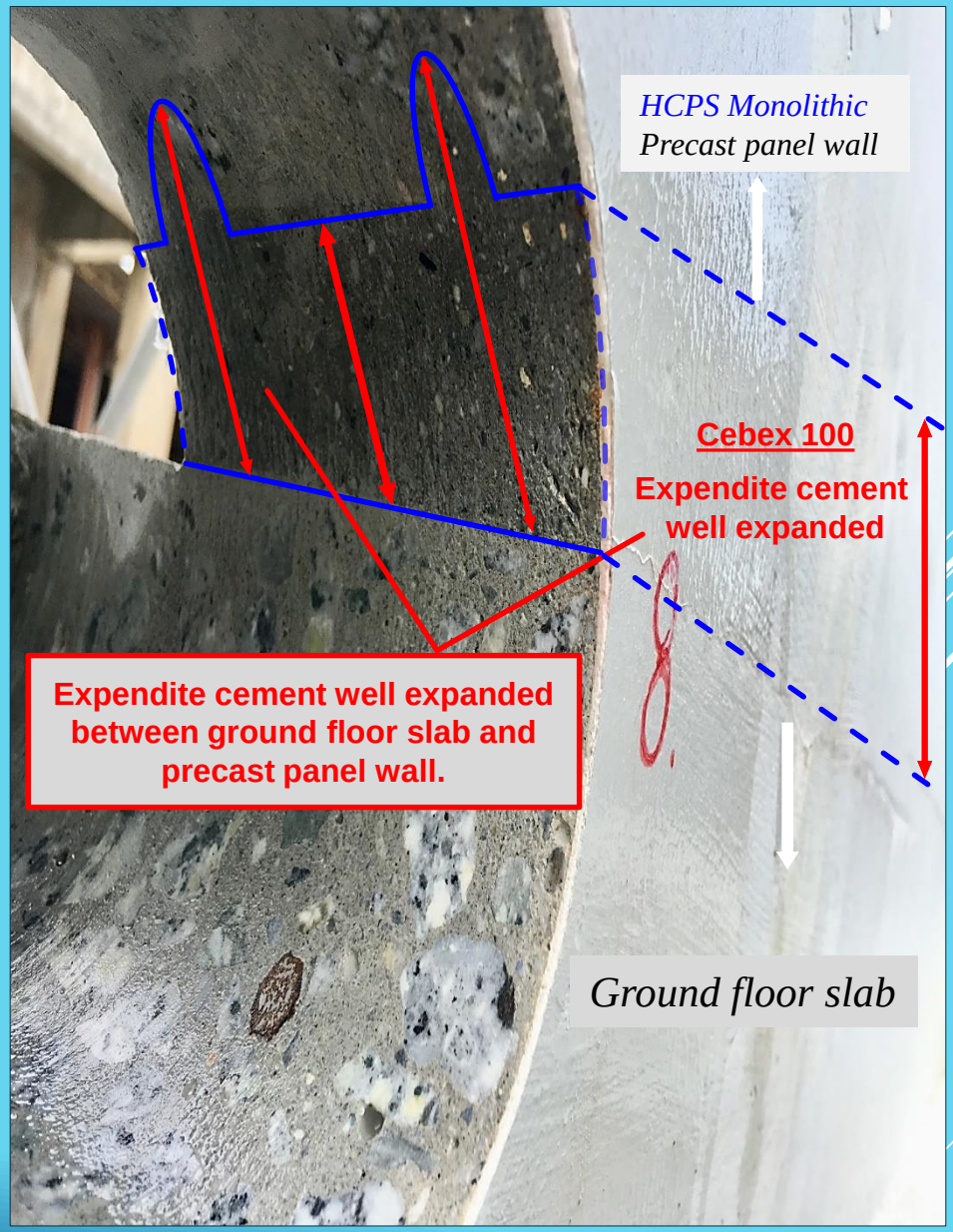




Standards compliance

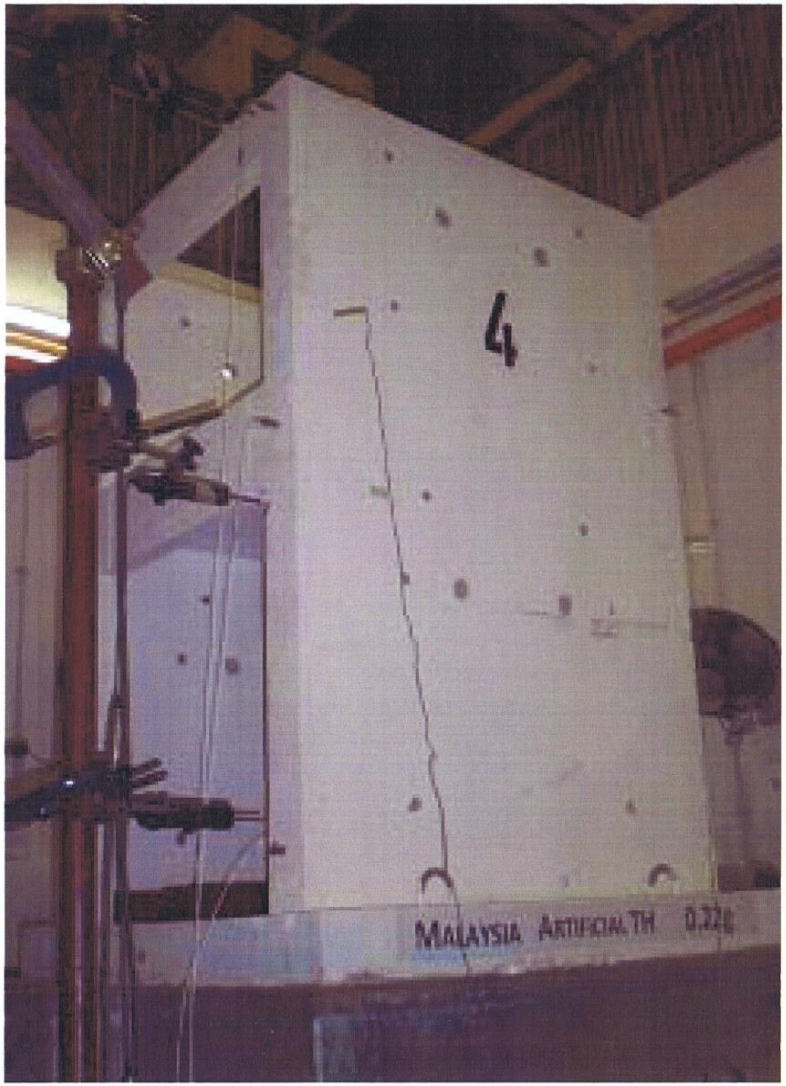
Cebex 100 is a suitable pre-stressing Grout admixture when complying with BS 8110 Part 1, 1985, section 8.9.4.6.

UTM
UNIVERSITI TEKNOLOGI MALAYSIA

e-SEER
Engineering Seismology and
Earthquake Engineering Research

HC PRECAST SYSTEM SDN. BHD.

Earthquake Resistance System
Tested on
18 August 2011
@ Laboratory of Shake Table Testing
Faculty of Civil Engineering
Universiti Teknologi Malaysia
81310 Skudai, Johor



Earthquake Resistance Test of Scaled-Down Double Storey Building of
HC PRECAST SYSTEM SDN. BHD.

Under 8 different real earthquake time histories over the world as follow:

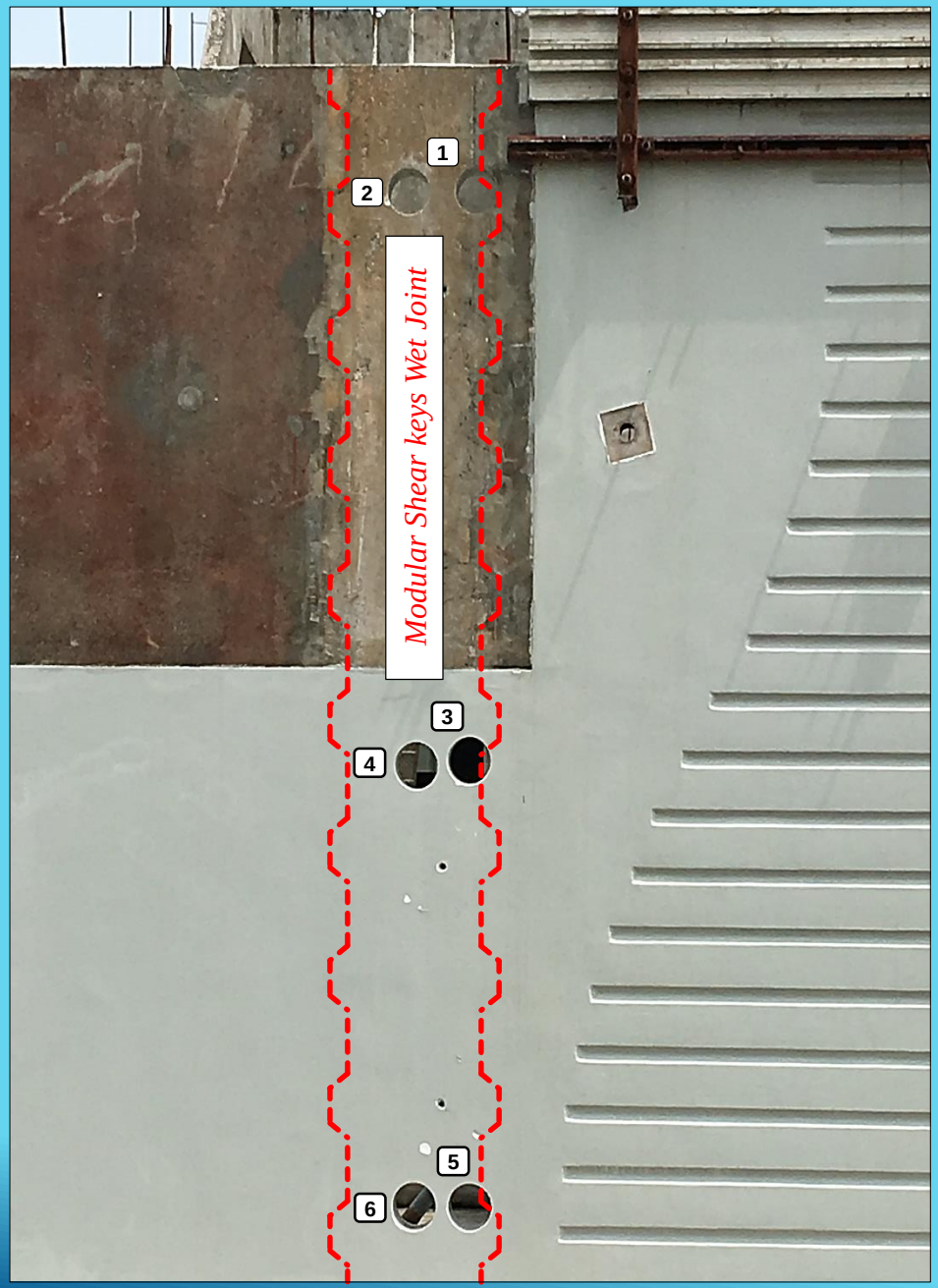
Earthquake	Year	Scaled PGA (g)	Magnitude	Result
El-Centro, California	1940	0.96	7.1	✓
Tabas, Iran	1978	0.114	7.4	✓
Irpinia, Italy	1980	0.606	6.5	✓
Kobe, Japan	1995	1.035	6.9	✓
New Zealand	1987	0.165	5.6	✓
Taiwan SMART1	1983	0.117	6.8	✓
Duzce, Turkey	1999	0.075	7.1	✓
Malaysia Artificial	-	0.606	-	✓

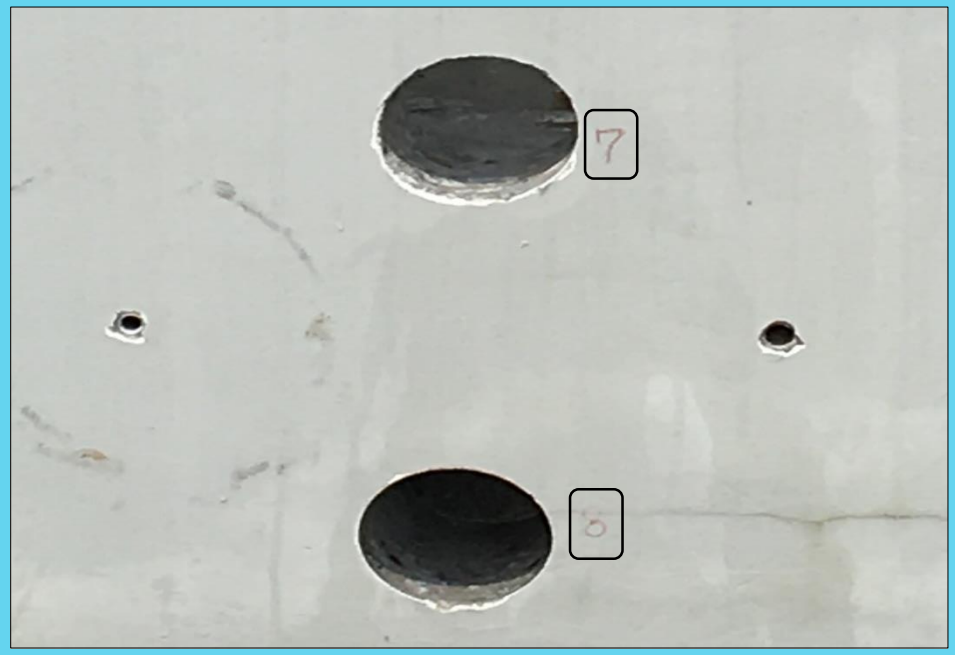
The **HC PRECAST SYSTEM** *performed extremely well throughout all the earthquake tests without any visible cracks or damages*

Dr Azlan Adnan
Professor of Structural Earthquake Engineering
Faculty of Civil Engineering, Universiti Teknologi Malaysia

Core Samples : Determination of Cement Content and Compressive Strength

Core Samples : Determination of Cement Content and Compressive Strength





Our Patented
Revolutionary
"Shear Key Joint"

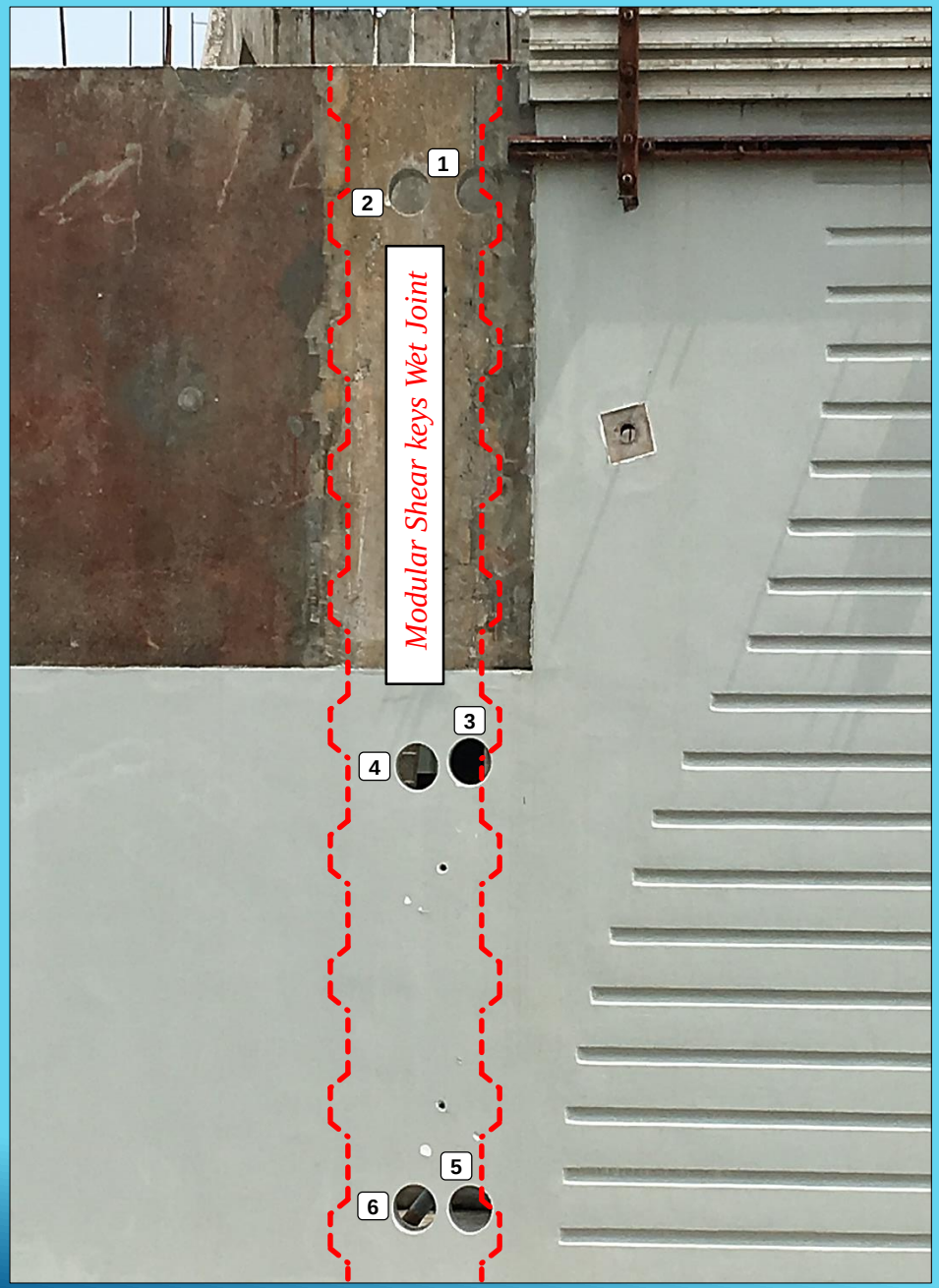
HCPS's

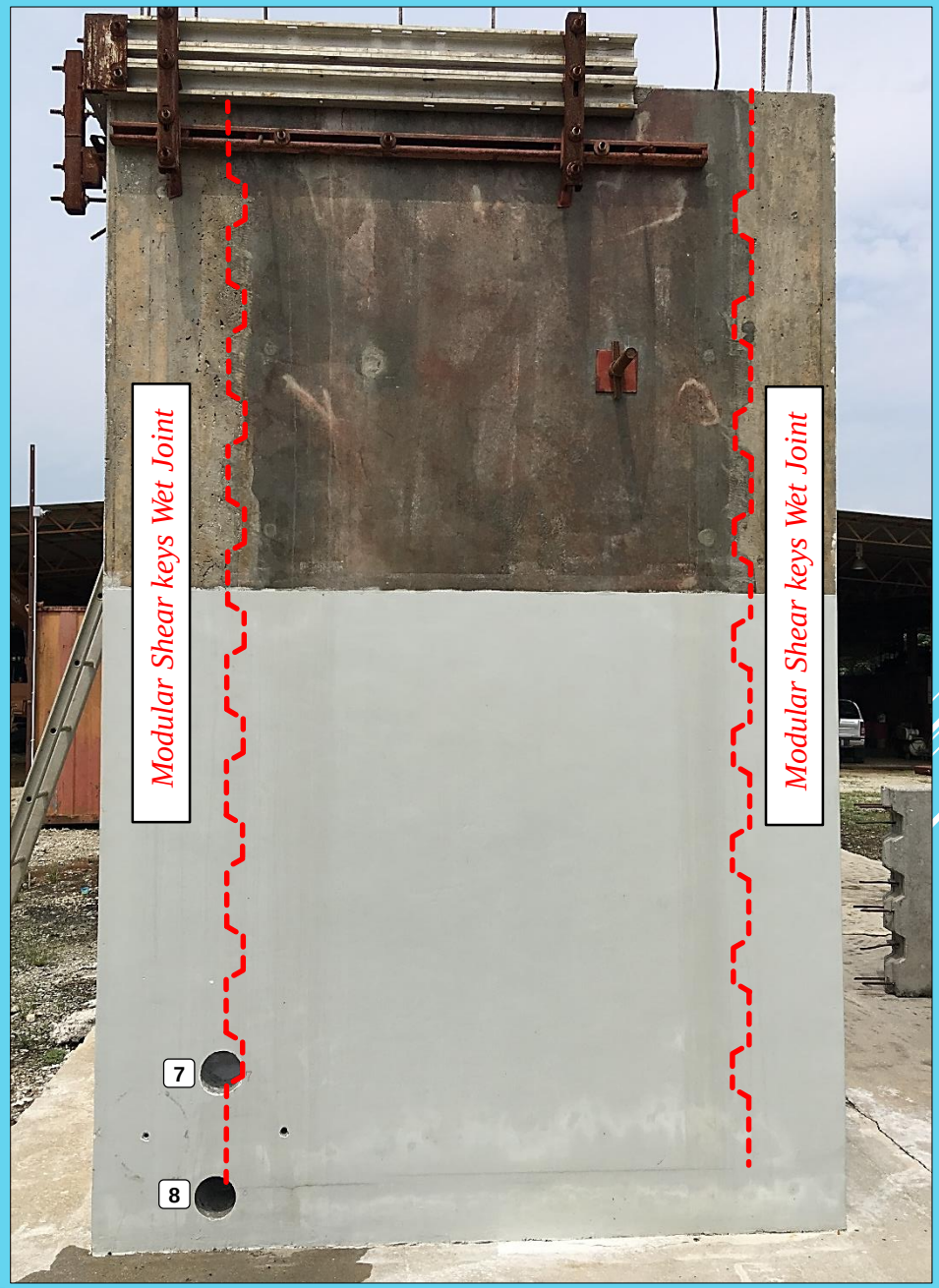
System have managed to resolve the very issue which have plaqued the precast industry, water leakages.

This patented system has helped to eradicate the most common issue with Precast Concrete construction, *water leakages.*

- Wet joint
- Tongue and groove
- Seamless interfacing

Core Samples : Determination of Cement Content and Compressive Strength





Core Samples : Determination of Cement Content and Compressive Strength

Materials • Technical • Solutions

Report No. :
Job No. :

Date Issue : 06/08/2019
Page : 1 of 2

TEST REPORT

Customer:	Project Name:
	Rasa
Customer Contact:	

No	Test Requested by Customer	Standard Reference	Specification
1	Determination of Cement Content of Core Sample	BS 1881: Part 124: 1998	-

Sample Received Date:	19/07/2019	Testing Activity Start Date:	26/07/2019
		Testing Activity End Date:	01/08/2019

Decription of Sample:	The total of **Five (05)** nos. of brick samples were received and reference as shown below:			
Material:	**Customer Marking**	**Quantity**	**Source**	**Type of Sample**
N/A	1-6734	01	N/A	Core Sample
	2-6735	01		
	3-6736	01		
	7-6737	01		
	8-6738	01		

Remarks:
i.
ii.
iii.
iv.

Prepared by:	Checked by:	Approved Signatory:
Reporting Department	Quality Department	Technical Manager

Report No. :
Job No. :

Page No. : 2 of 2

Cement Content Test Result

Customer :
Project : Rasa
Test Method : BS 1881: Part 124: 1998

Sample Marking		**1-6734**	**2-6735**	**3-6736**	**7-6737**	**8-6738**
Type of Sample		**Core Sample**				
*Approximate Ordinary Portland Cement Content (Calculated from calcium oxide content)	(%)	19.3	20.3	20.4	20.5	16.7
Approximate Fine Aggregate Content	(%)	56.0	49.0	58.2	28.6	51.9
Approximate Coarse Aggregate Content	(%)	24.7	30.8	21.4	51.0	31.5
Approximate Weight Ratio of Cement,Fine Aggregate and Coarse Aggregate		1.0 : 2.9 : 1.3	1.0 : 2.4 : 1.5	1.0 : 2.9 : 1.1	1.0 : 1.4 : 2.5	1.0 : 3.1 : 1.9

Notes:

1)Coarse aggregate is that fraction retained on 5.00mm BS410 Sieve.

2)Fine aggregate is that fraction passing through 5.00mm BS410 Sieve. This include any clay or silt present in the aggregate.

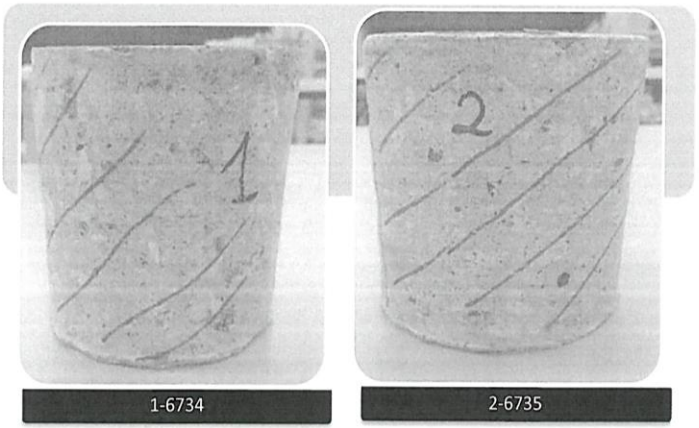
*3)*The cement content was calculated from the soluble calcium oxide constituent on the assumption that the sample did not contain substantial amounts of other material that yield soluble calcium oxide.*

Chemist

Certified by,

Materials • Technical • Solutions

Core Samples : Determination of Cement Content and Compressive Strength



1-6734 2-6735

3-6736 7-6737

8-6738

Core Samples : Determination of Cement Content and Compressive Strength

Report No. :

Date Issue : 29/07/2019
Page : 1 of 2

TEST REPORT

Customer:	Project Name:
	Rasa
Customer Contact:	

No.	Test Requested by Customer	Standard Reference
1	Determination of Compressive Strength of Concrete Core	BS EN 12390-3: 2009 / MS EN 12390-3:2012

Sample Received Date:	19/07/2019	Testing Activity Start Date:	19/07/2019
		Testing Activity End Date:	25/07/2019

Description of Sample:	A total of **Three (03)** nos. of 100mm Ø of concrete core samples were cored and referenced as below :		
	Structure	**No of Cores**	**No of Specimen**
	Wall	03	03
Remarks:	*i. The testing was performed at Lab.*		

Witness by:

No.	Observer	Position	Company
1		N/A	

Prepared by:	Checked by:	Approved Signatory:
Reporting Department	Quality Department	Technical Manager

Report No. : /CT/19/R3129 Page No. : 2 of 2

Customer :

Project : Rasa

Determination of Core Compressive Strength

BS EN 12390-3: 2009 / MS EN 12390-3:2012

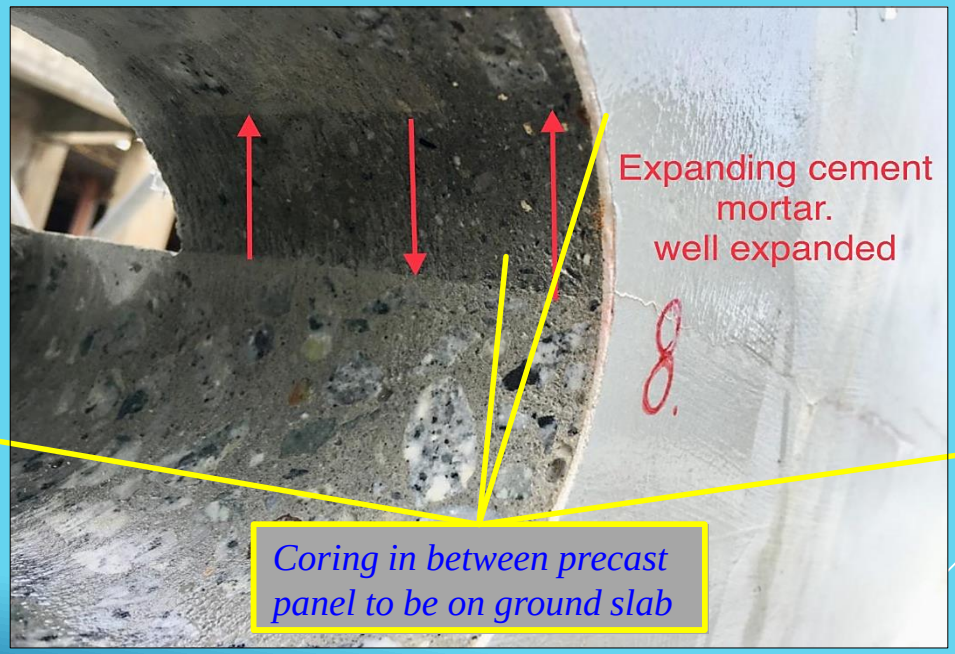
LAB MARKING		C 6731	C 6732	C 6733
Structure		Wall		
Sample Marking*		4	5	6
Concrete Grade	N/mm^2	25		
Date of casting		13/09/2018		
Date of testing		25/07/2019		
Direction of drilling		Horizontal	Horizontal	Horizontal
As received density	(kg/m^3)	2290	2270	2400
Diameter of core	(mm)	99	99	99
Average length after capped	(mm)	106	108	109
Maximum load	(kN)	267.7	274.7	234.5
Compressive core strength	(N/mm^2)	34.8	35.7	30.5
Corrected In-situ Cube Strength	(N/mm^2)	37.5	37.7	32.8
Compaction	Excess Voidage (%)	0.5	0.5	0.5
	Honeycomb	No	No	No
	Cracks	N.Vi	N.Vi	N.Vi
TYPE OF FRACTURE AFTER COMPRESSIVE TEST		Normal	Normal	Normal

Notes: 1) * - Data as furnished by client

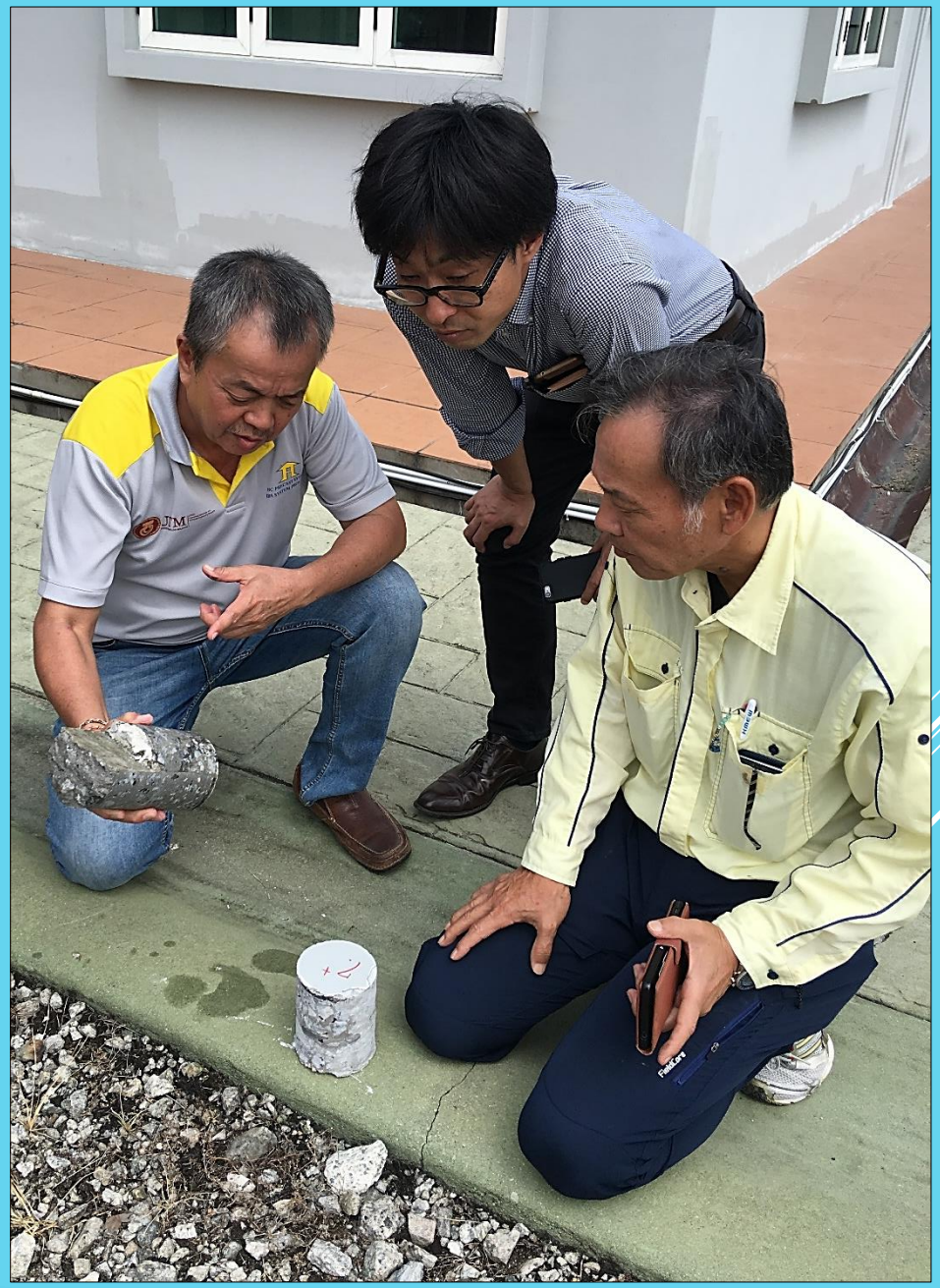
Certified by,

Technical Manager

Core Samples : Determination of Cement Content and Compressive Strength



Core Samples : Determination of Cement Content and Compressive Strength

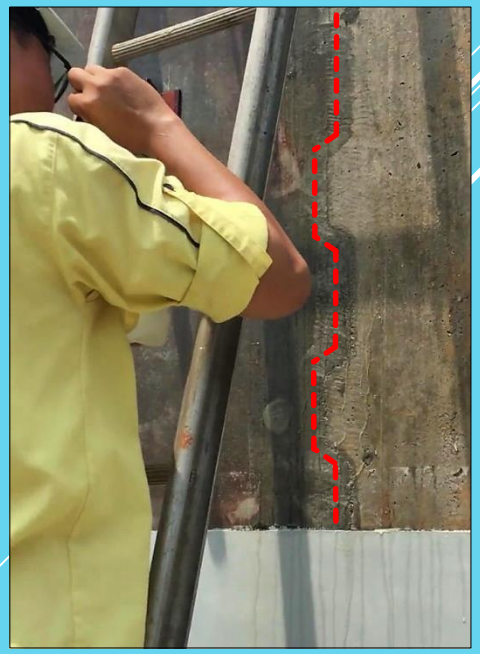


Core Samples : Determination of Cement Content and Compressive Strength







Water Penetration Test

- *To inspect the penetration of liquids across the panel section.*
- *To confirm the effectiveness of the monolithic joints against water leakages.*

Tests were conducted Independently by a Reputable Developer (Japan) and Jointly Witnessed by HCPS at the Sample unit at HCPS Fabrication Complex.

Water Penetration Test

- *To inspect the penetration of liquids across the panel section.*
- *To confirm the effectiveness of the monolithic joints against water leakages.*

3. Water Penetration Test Sample Location

Water Penetration Test

- *To inspect the penetration of liquids across the panel section.*
- *To confirm the effectiveness of the monolithic joints against water leakages.*

1. Water Penetration Test Samples (Preparation)

2. Water Penetration Test Set-up (Day 1: 15 Nov 2019 Time: 3pm)

Water Penetration Test

- *To inspect the penetration of liquids across the panel section.*
- *To confirm the effectiveness of the monolithic joints against water leakages.*

3. Water Penetration Test Result after 24hours (Day 2: 16 Nov 2019 Time: 3pm)

Test Sample	Day One	Day Two (After 24 hours)
Sample P1	25mm	26mm (Loss 1mm)
Sample P2	25mm	28mm(Loss 3mm)
Sample P3	25mm	31mm(Loss 6mm)
Benchmark (BM)	25mm	26mm (Loss 1mm)

Water Penetration Test

- *To inspect the penetration of liquids across the panel section.*
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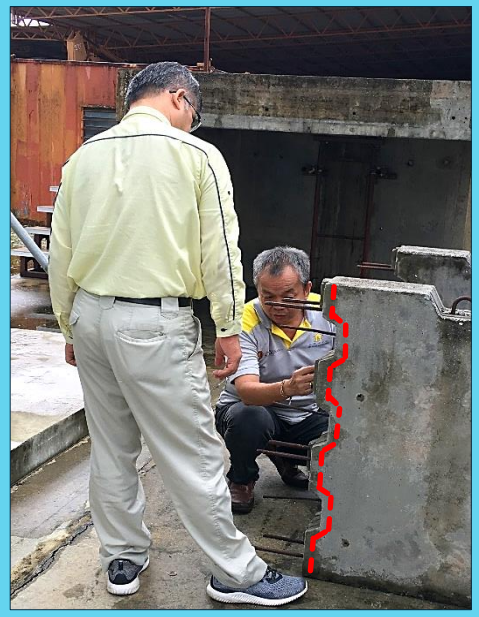

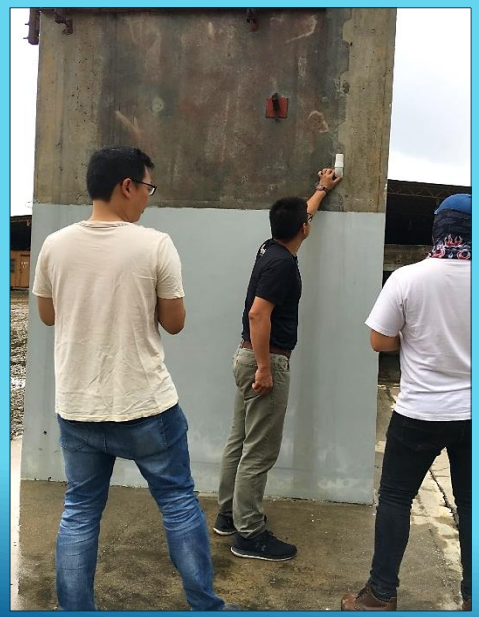

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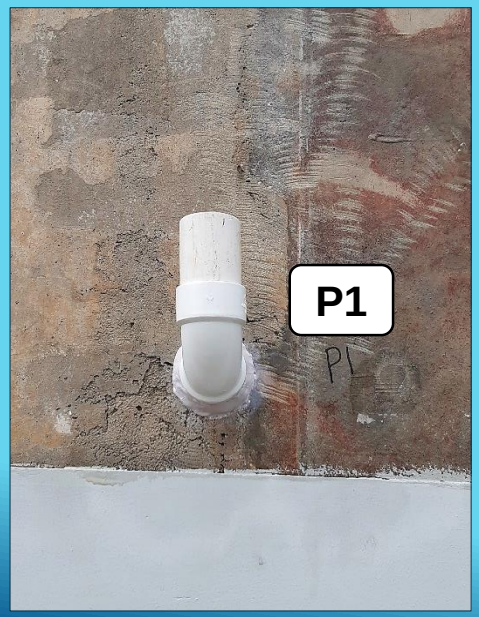

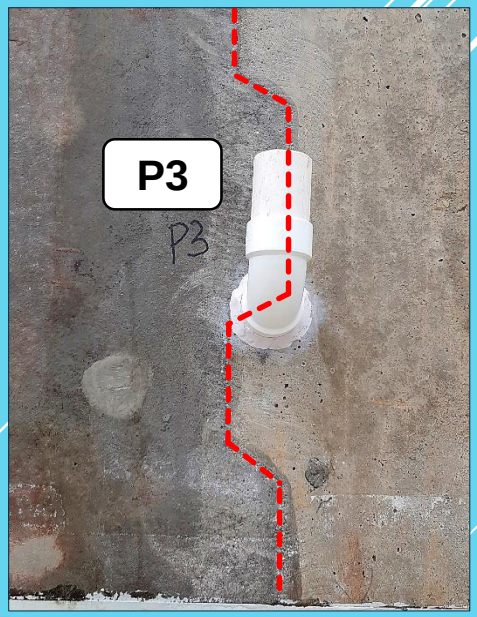

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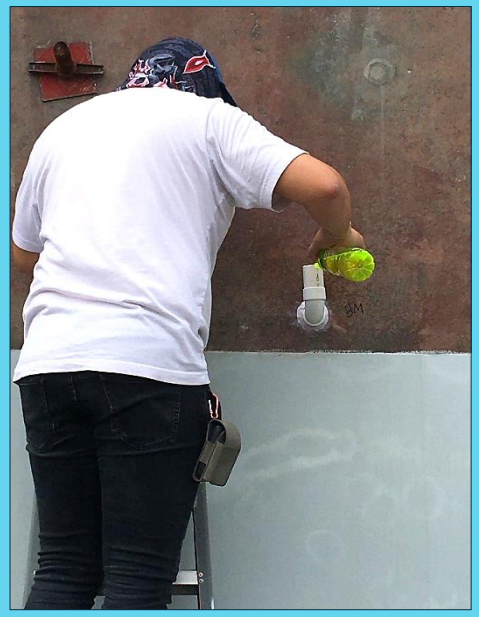







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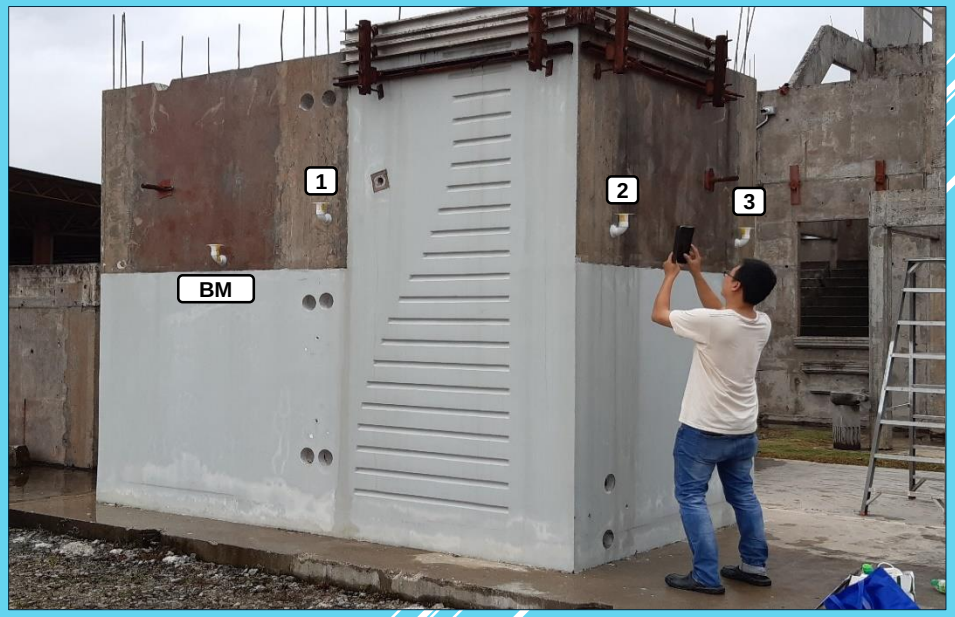

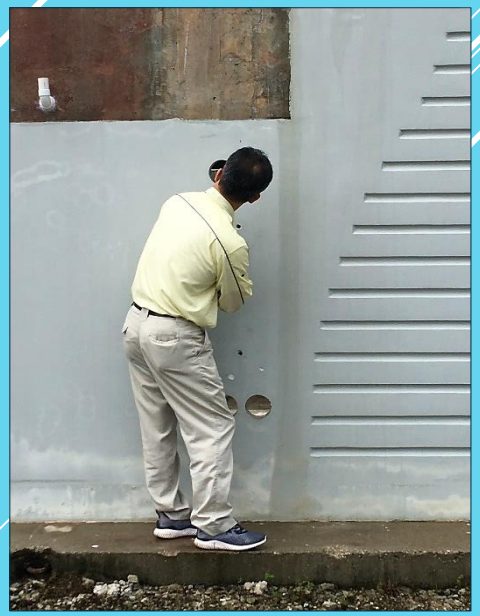

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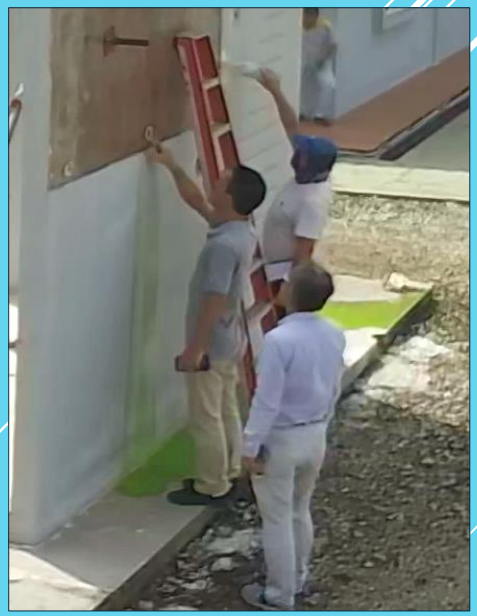


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Sample unit at HCPS Fabrication Complex

Industrialised Building System Provider

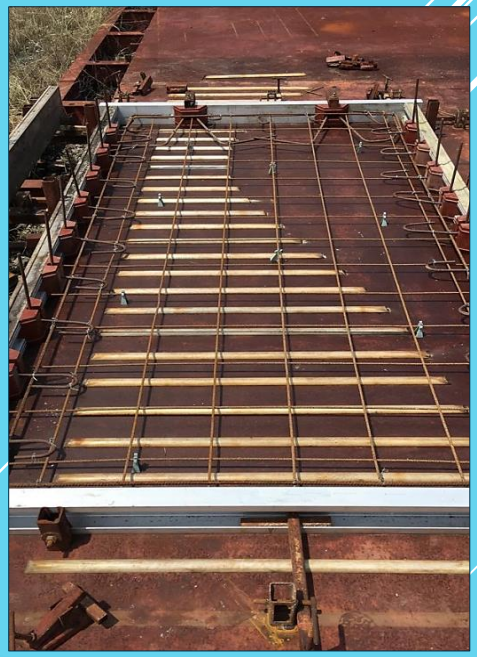
Is one who knows the Way, goes the Way and shows the Way.

Precast element comply to the Bsi code & Building by Law

Sample unit at HCPS Fabrication Complex



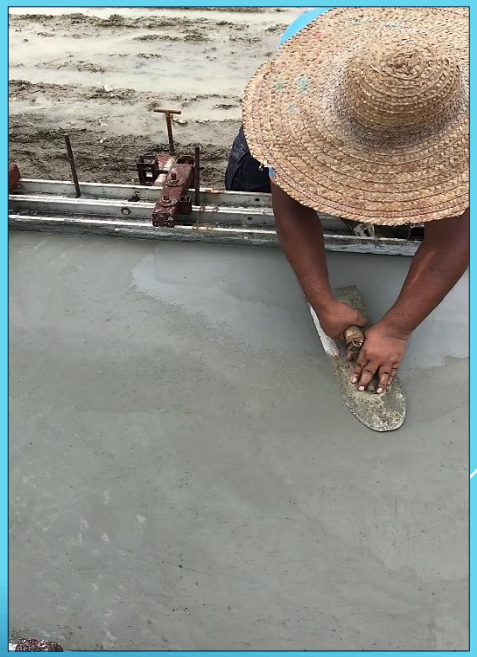
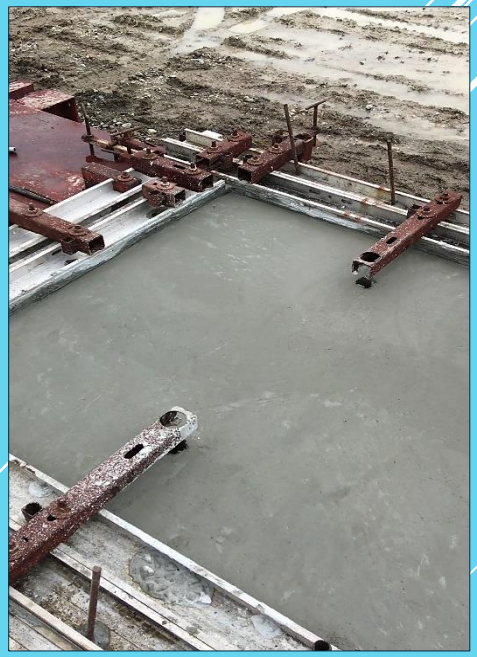



Sample unit at HCPS Fabrication Complex






Sample unit at HCPS Fabrication Complex





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THANK YOU